Insects and Thresholds of Sorghum

- Although sorghum may have more tolerance to insect damage than other crops, insect management is critical to reduce susceptibility of a sorghum crop to insect and disease damage.
- There are several insect pests of sorghum that may reduce potential yield throughout the growing season.
- There are several management practices that may reduce insect damage in a sorghum crop, including crop rotation, planting date, sorghum product selection, fertility management, and weed control.

Seed and Root Insect Pests

**Wireworm, false wireworm.** Yellow to brown, shiny, and hard bodied (Figure 1). Feed on sorghum seed, reducing germination. Can also feed on seedling roots, reducing plant vigor. Scouting for wireworms can begin prior to planting by soil observations. Bait traps with untreated sorghum seed may also be used to determine presence of wireworms. Treat sorghum crop if 1 wireworm larva is found per 1-2 square feet of soil 4 inches deep or if 2 or more larvae are found per bait trap.1

**Stem and Leaf Insect Pests**

**Sugarcane aphid.** A relatively new pest of sorghum, the sugarcane aphid is white to yellow, and infestations usually occur on field margins first. Infestations can multiply quickly and can devastate sorghum crops by killing leaves or entire plants. Treat sorghum crop when sugarcane aphids are present on most plants or when occasional leaves have more than 100 sugarcane aphids present.

**Yellow sugarcane aphid.** Typically yellow in sorghum, this aphid has rows of spots along the abdomen and short, stiff hairs covering the body. Yellow sugarcane aphids produce a toxic substance in their saliva that may leave red spots on leaves where feeding has occurred. Treat when 1 to 2 yellow sugarcane aphids are found on most seedlings, or when 1 to 2 leaves are dying on older plants.2

**Corn leaf aphid.** Color is bluish-green, with black legs, antennae, and cornicles (tail-pipes at the end of the abdomen). Can transmit viral diseases in fields that also contain Johnsongrass. Scout for this aphid inside leaf whorls. Treatment is typically not necessary, because sorghum plants are able to withstand large populations of corn leaf aphids.

**Greenbug.** A light green aphid with a dark green stripe down the back (Figure 2). Early-planted sorghum is more susceptible to greenbug damage. Populations can increase quickly, and are often located on the undersides of sorghum leaves. Similar to yellow sugarcane aphids, greenbugs also produce a toxic substance in their saliva that may leave red spots on damaged leaves. Threshold and treatment is the same as for yellow sugarcane aphid.2

**Chinch bugs.** Nymphs are reddish-brown, and will turn black with a white or silver “X” marking in the adult stage (Figure 3). Chinch bugs are most damaging during the early growth stages of sorghum plants, but can infest sorghum throughout the growing season. Feeding occurs on the stem and large leaf veins, and can cause red or yellow discoloration, wilting, and delayed growth. Large populations can kill seedlings. Chinch bugs may also be found in nearby grain fields or grass weeds. They prefer hot and dry environments. Cool, wet conditions may produce a fungal pathogen that can reduce chinch bug populations. Treat when 2 or more adults are discovered on 20% of seedlings or when 75% of older plants are infested with 5 or more adults per plant.3

**Fall armyworm.** Larvae are green-brown with brown-black stripes on the sides of the body (Figure 4). Head capsule is dark with an inverted Y-shape on the front of the head. Large, irregular holes in leaf tissue may indicate feeding damage.
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Sorghum has a high tolerance to defoliation, so treatment should occur when larvae are present and 40% or more of leaf whorls are damaged.\textsuperscript{2,3}  

**Corn earworm.** Larvae vary from pink to green with light and dark stripes along the body and small spines. Head capsule is creamy yellow. Feeding typically begins in leaf whorls of young plants, and late-planted sorghum may be more susceptible to damage. Like fall armyworm, infestations can also occur in young sorghum plants. 

Fall armyworms and corn earworms also infect sorghum grain heads. Both larvae feed on grain kernels, causing a direct loss to potential yield. Treat when an average of 1 larvae is found per plant.\textsuperscript{2}

**Stem-Boring Insect Pests**

Sugarcane borer, Southwestern corn borer, European corn borer, Mexican rice borer, Neotropical borer. White to buff-colored moths, producing yellow larvae with yellow to black markings (Figure 5). Young larvae feed on leaves, but older larvae can bore into plant stalks. Damaged plants may be lodged or broken. Presence may be determined by inspecting sorghum plants for small holes in the stalk. If holes are present, stalk may be split open to reveal larvae.

Sugarcane rootstock weevil. Adults are dark brown to black. Larvae are small, white grubs. Prefers dry seasons and fields with Johnsongrass. Larvae can cause the most damage, as they bore into plant stalks near the soil surface. Feeding can cause plant wilting and lodging. Adults may feed on young plants and crowns. Treatment is usually not required, but may be required in some cases.\textsuperscript{1}

**Grain Head Insect Pests**

Sorghum midge. A small, reddish-orange insect that lays eggs inside seed husks during flowering (Figure 6). Larvae feed on developing seeds, causing dried up kernels. The only known hosts of sorghum midge are sorghum and Johnsongrass, so it is important to suppress Johnsongrass weed populations to help reduce potential devastating damage. Grain heads should be scouted twice a week from head emergence through bloom. Cover the grain head with a clear bag, shake, and observe for the presence of sorghum midges inside the bag. Treat when an average of 1 midge per grain head is found.\textsuperscript{2,3}

Sorghum webworm. A small, hairy caterpillar with 4 reddish-brown stripes along the back. Sorghum webworms may produce a sticky webbing near feeding locations. Look for larvae inside grain heads and also near grain heads for evidence of white droppings. Treat sorghum crop when an average of 3 to 4 larvae are found per grain head.\textsuperscript{2}

**Management**

There are several cultural practices that can help reduce insect pressure in sorghum. Crop rotation to a non-grass crop can help reduce sorghum-related insect populations in the field. Also, be sure to select a sorghum product that is adapted for local growing conditions, with good disease resistance and high vigor. Control weed pressure, especially weedy grasses like Johnsongrass, which may harbor sorghum insect pests. Apply adequate fertilizer and plant in optimum soil and environmental conditions to reduce plant stress. Also, timing of planting may reduce insect pressure by scheduling crop maturity to coincide with lower insect populations. Finally, harvest in a timely manner to reduce potential for yield loss to insect pests and birds.\textsuperscript{3}

Sources:


Web sources verified 05/16/16.

For additional agronomic information, please contact your local seed representative. Developed in partnership with Technology, Development, & Agronomy by Monsanto.

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